Lower drinking ages can have an impact on later drinking patterns

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Lower minimum legal drinking age (MLDA) laws have been associated with short-term effects such as a greater number of traffic fatalities and teen suicides. A new study has investigated the long-term and persistent linkages between permissive MLDA laws and specific drinking behaviors such as average alcohol consumption, frequency of drinking, patterns of binge drinking, and moderate drinking. Findings support an association with problematic drinking behaviors that persist into later adulthood, such as more frequent binge episodes.

Results will be published in the March 2013 issue of *Alcoholism: Clinical & Experimental Research* and are currently available at Early View.

"Drinking age laws have been very effective in reducing alcohol related problems," said Andrew D. Plunk, post-doctoral research fellow at Washington University School of Medicine in St. Louis as well as corresponding author for the study. "Many researchers have studied the laws and there is quite a bit of evidence supporting their positive impact, especially for reducing alcohol consumption and traffic fatalities for those under the age of 21."

"Alcohol is the leading substance of abuse among youth in the United States," added Ralph Hingson, director of the Division of Epidemiology and Prevention Research at NIAAA. "Underage persons frequently binge drink, averaging six drinks per occasion five times per month."

Hingson said that persons under 21 who binge frequently are more likely

to engage in a variety of behaviors that place themselves and others at risk: driving after drinking, riding with drinking drivers, never wearing safety belts, carrying weapons, having unplanned and unprotected sex, and illicit drug use. "Frequent bingers are also more likely to be injured in physical fights and suicide attempts," he said. "Furthermore, human brain development continues into the third decade of life, raising concern that heavy adolescent alcohol misuse may produce cognitive deficits and impairment in memory and attention. Finally, numerous studies have linked binge drinking to poorer academic performance."

Hingson explained that, in 1984, when less than half the states had a minimum legal drinking age of 21, the U.S. Congress passed legislation to withhold highway construction funds from states that did not raise the legal drinking age to 21. By 1988, it became illegal to sell alcohol to persons under age 21 in all states. "A review of 49 studies published in peer-reviewed scientific journals found that, when the legal drinking age was lowered in many states during the 1970s and early 1980s, there was a 10 percent increase in average alcohol-related traffic crashes in the states that lowered the age, whereas in states that raised the drinking age, there was a 16 percent decline in alcohol-related traffic crashes," he said. "Much less is known about the effects of raising the legal drinking age on persons older than 21."

"Our research is different for a few reasons," said Plunk. "First, most studies have focused on the immediate or short-term impact of MLDA laws on drinking, whether the outcome is drinking behavior or traffic fatalities. Second, while there has been some prior research on the long-term impact of MLDA laws on binge drinking, to my knowledge we are the first to look at the impact on both binge drinking and non-heavy drinking, that is, more moderate drinking that didn't cross the binge threshold. Third, we were specifically interested in looking at how the effects of these laws might have been different based on whether or not an individual attended college, which previous research on the long-term

impact of the laws didn't do."

Plunk and his colleagues gathered policy exposure data on changes in MLDA laws during the 1970s and 1980s. These data were paired with alcohol use data from the 1991-1992 National Longitudinal Alcohol Epidemiologic Survey, and the 2001-2002 National Epidemiologic Survey on Alcohol and Related Conditions. Those who reported drinking during the past year before they were surveyed and who were born between 1949 and 1972 (n = 24,088) were included in this data set. Average daily intake, overall drinking frequency, and frequency of both binge episodes (5+ drinks) and days without a binge episode (non-heavy drinking) for the previous year at the time of interview were tracked for each respondent.

"We examined data from people who were young adults in the 70s and 80s but who were surveyed about their alcohol use years later," said Plunk. "Lower drinking age wasn't linked with greater alcohol consumption, but did impact drinking pattern, which we measured in two ways: how often a person binged, and how often a person drank but didn't cross the binge threshold. Those with a lower drinking age were more likely to frequently binge drink, while also being less likely to do any non-heavy drinking. We also looked at specific demographic groups; men and those who did not go to college likely benefited from changes in drinking age laws more than the rest of the population."

"These findings have direct policy implications," said Hingson. "They reinforce that raising the minimum drinking age to 21 prevents alcohol-related harms to underage drinkers as well as other people under age 21. They indicate that some of the benefits of the MLDA of 21 carry over into adult life, preventing harms to adult alcohol consumers and other people." And they furthermore support prior research finding that people who grew up in states where they could drink legally before age 21 were more likely as adults to experience alcohol dependence and

abuse and drug dependence and abuse, he said.

"Our findings stress the importance of assessing how the 21 MLDA affects all young adults, not just those on college campuses," said Plunk. "We also show how helpful looking at a broad range of drinking behavior can be. Many studies focus on binge drinking, but few examine more moderate drinking behavior. This seems especially important when looking at the long-term impact of policy, given that research suggests that moderate drinking actually reduces mortality risk."

"It is important for physicians to routinely ask patients under 21 about alcohol use and advise them about associated risks," said Hingson. "One of our recent surveys found that, while two-thirds of 18 to 20-year-olds saw a physician in the past year, less than 15 percent of them were both asked about their drinking and given advice about what levels of drinking pose risk to health."

"We need to be wary of unintended consequences," added Plunk. "Proposals to lower the MLDA have typically been in response to binge drinking by college students. College drinking is a serious problem – one that research suggests a lower drinking age wouldn't help – but college student drinking should not be our only concern. As noted earlier, we found that those who did not attend college benefited the most from increases in the drinking age. It is incumbent on any who propose lowering the MLDA to account for how all young people would be affected."

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